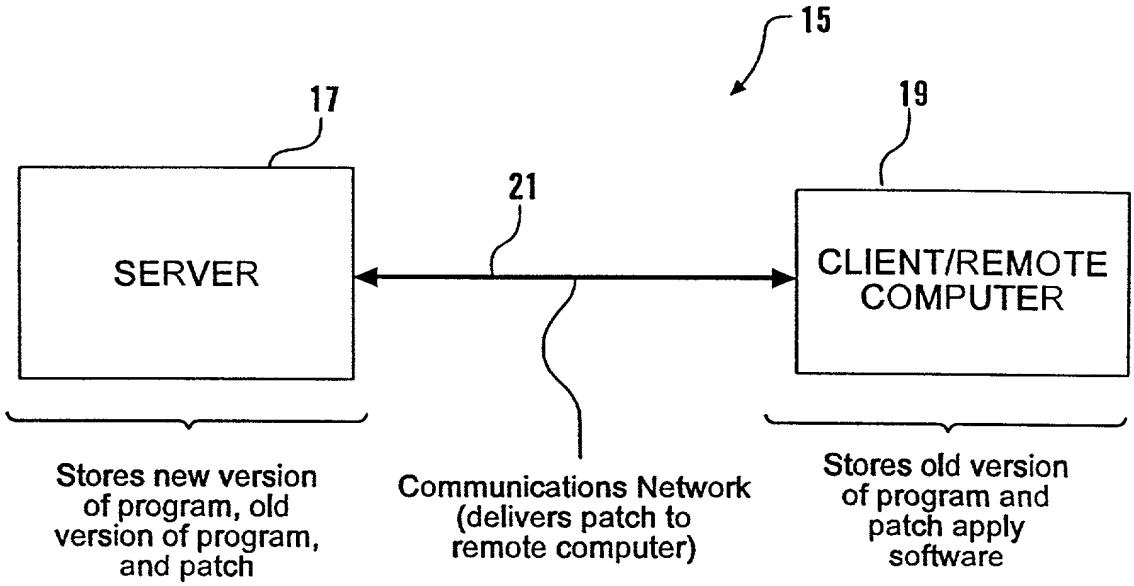

FIG. 1
PRIOR ART

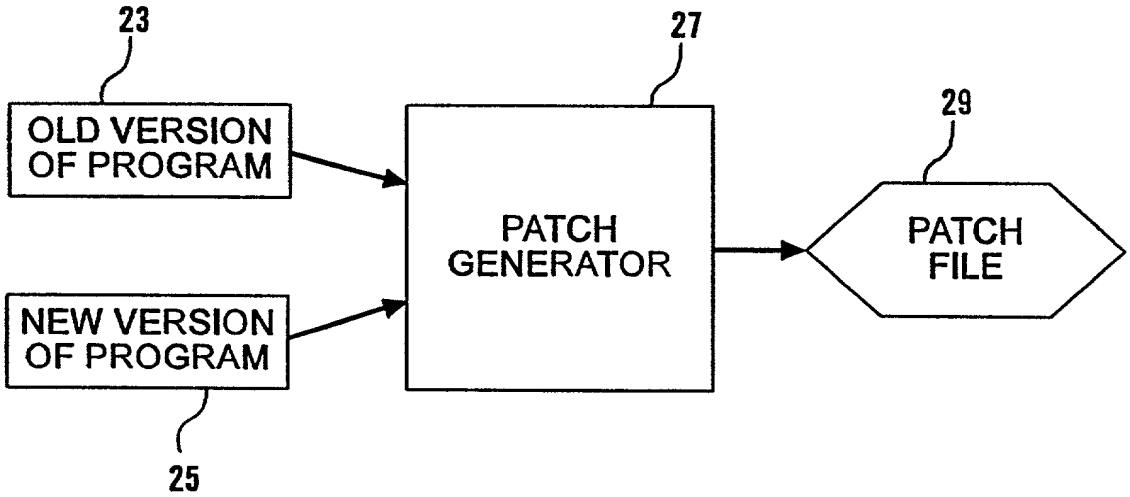

FIG. 2
PRIOR ART

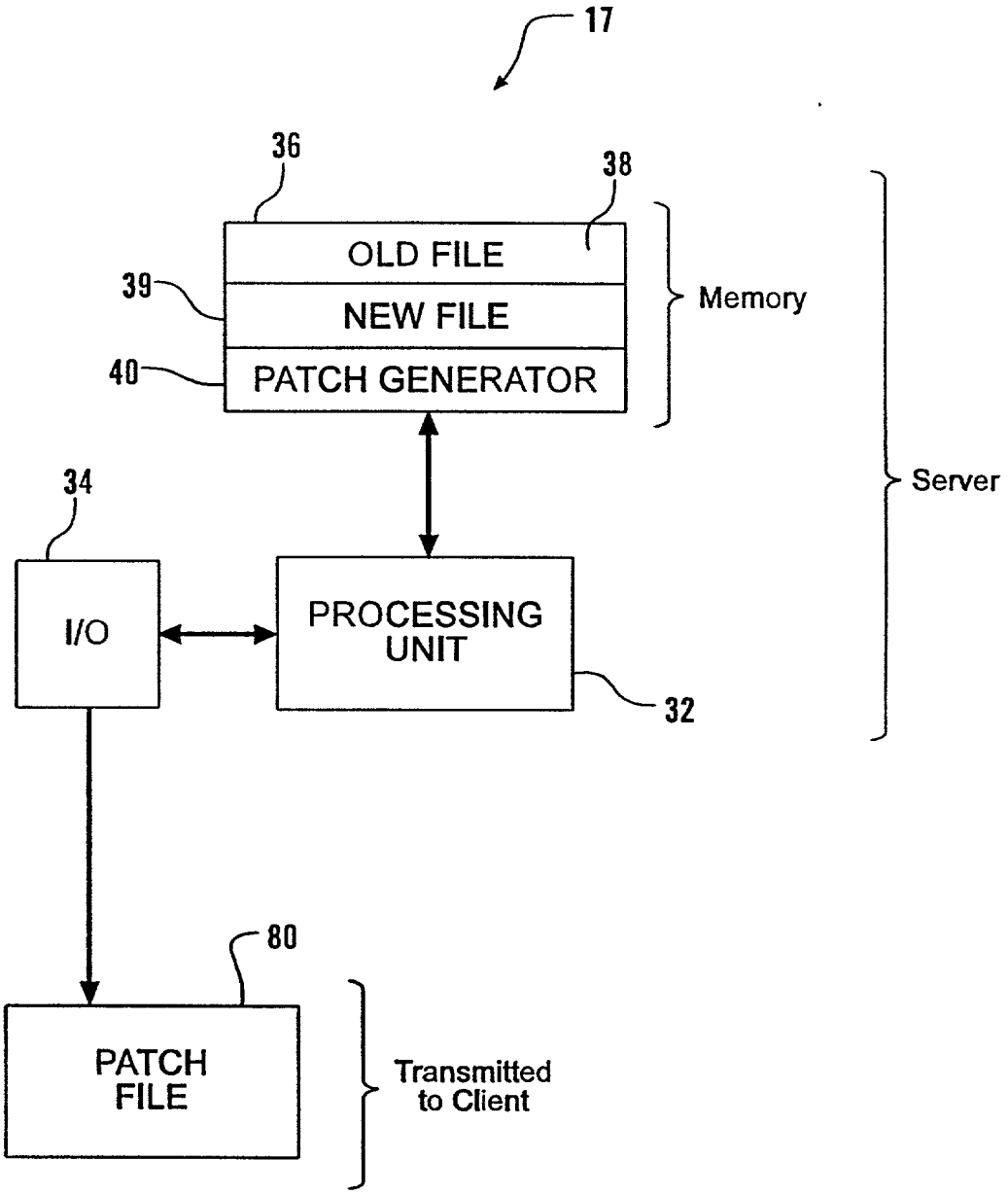
17
36
38
OLD FILE
39
NEW FILE
40
PATCH GENERATOR
Memory
Server
34
I/O
PROCESSING UNIT
32
80
PATCH FILE
Transmitted to Client

FIG. 3

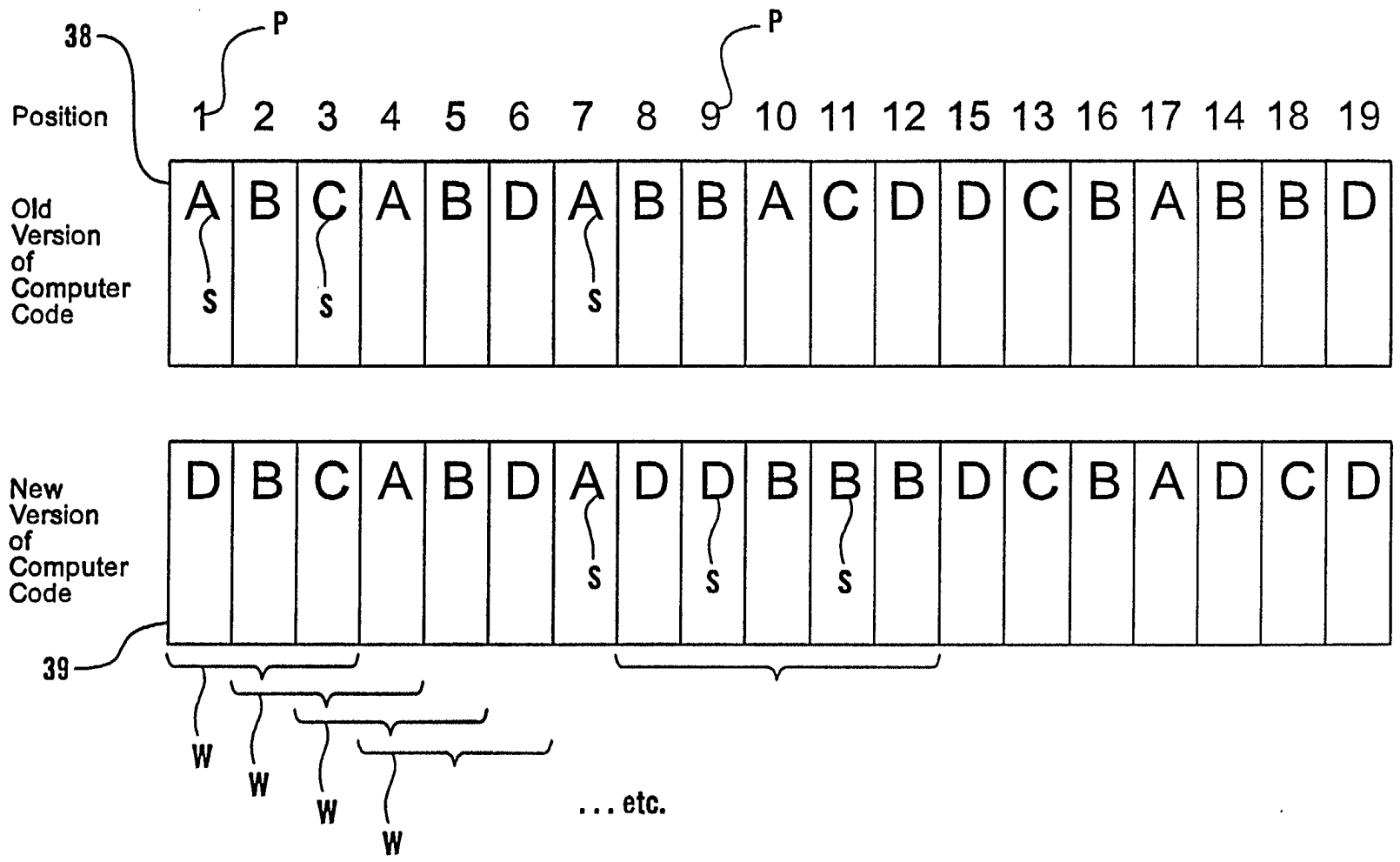
38
P
P
Position
1 2 3 4 5 6 7 8 9 10 11 12 15 13 16 17 14 18 19
Old Version of Computer Code
A B C A B D A B B A C D D C B A B B D
S
S
S
New Version of Computer Code
D B C A B D A D D B B B D C B A D C D
S
S
S
39
W
W
W
W
... etc.

FIG. 4

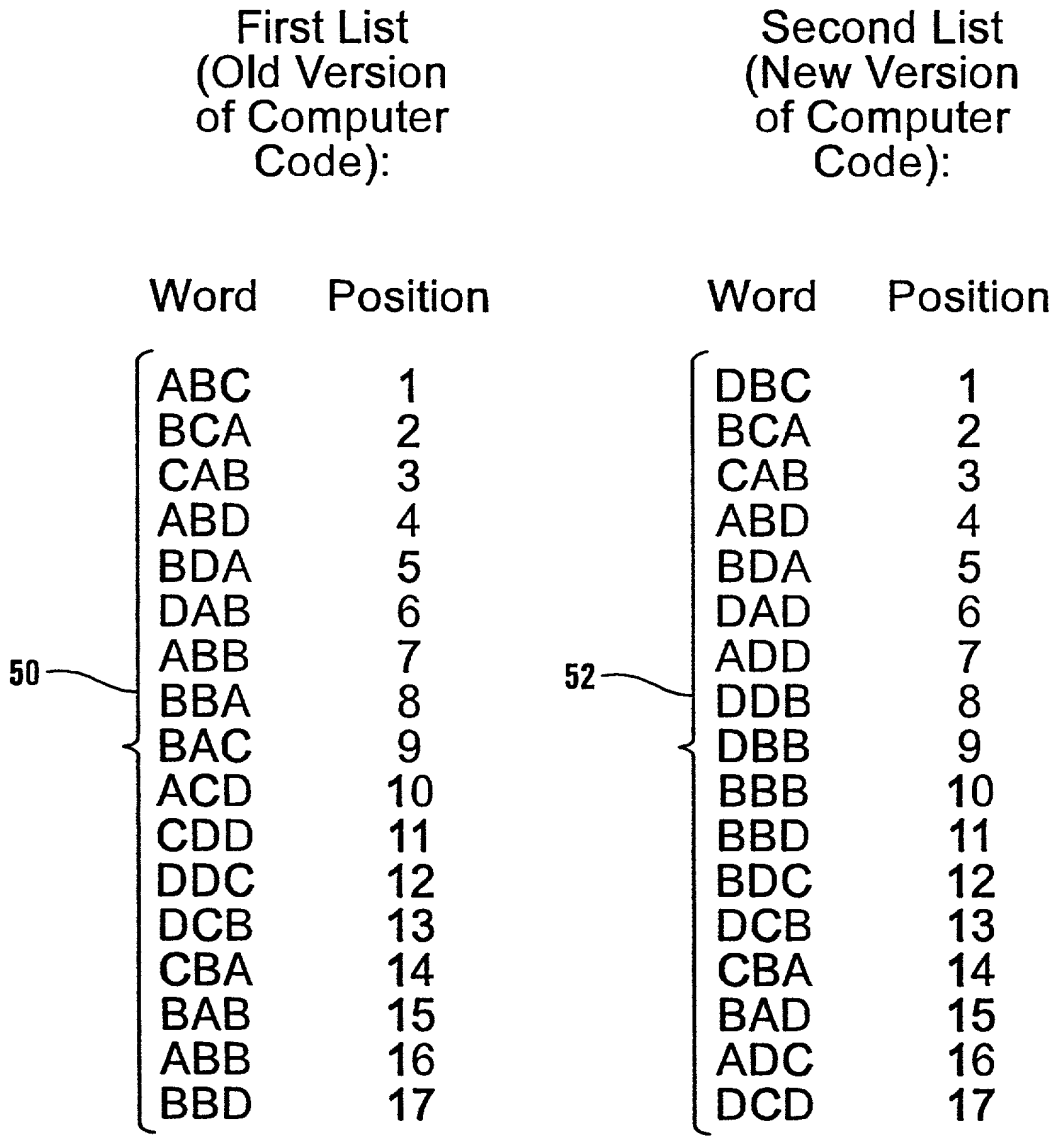
First List
(Old Version
of Computer
Code):
Second List
(New Version
of Computer
Code):
Word
Position
Word
Position
ABC 1
BCA 2
CAB 3
ABD 4
BDA 5
DAB 6
ABB 7
BBA 8
BAC 9
ACD 10
CDD 11
DDC 12
DCB 13
CBA 14
BAB 15
ABB 16
BBD 17
DBC 1
BCA 2
CAB 3
ABD 4
BDA 5
DAD 6
ADD 7
DDB 8
DBB 9
BBB 10
BBD 11
BDC 12
DCB 13
CBA 14
BAD 15
ADC 16
DCD 17
50
52

FIG. 5

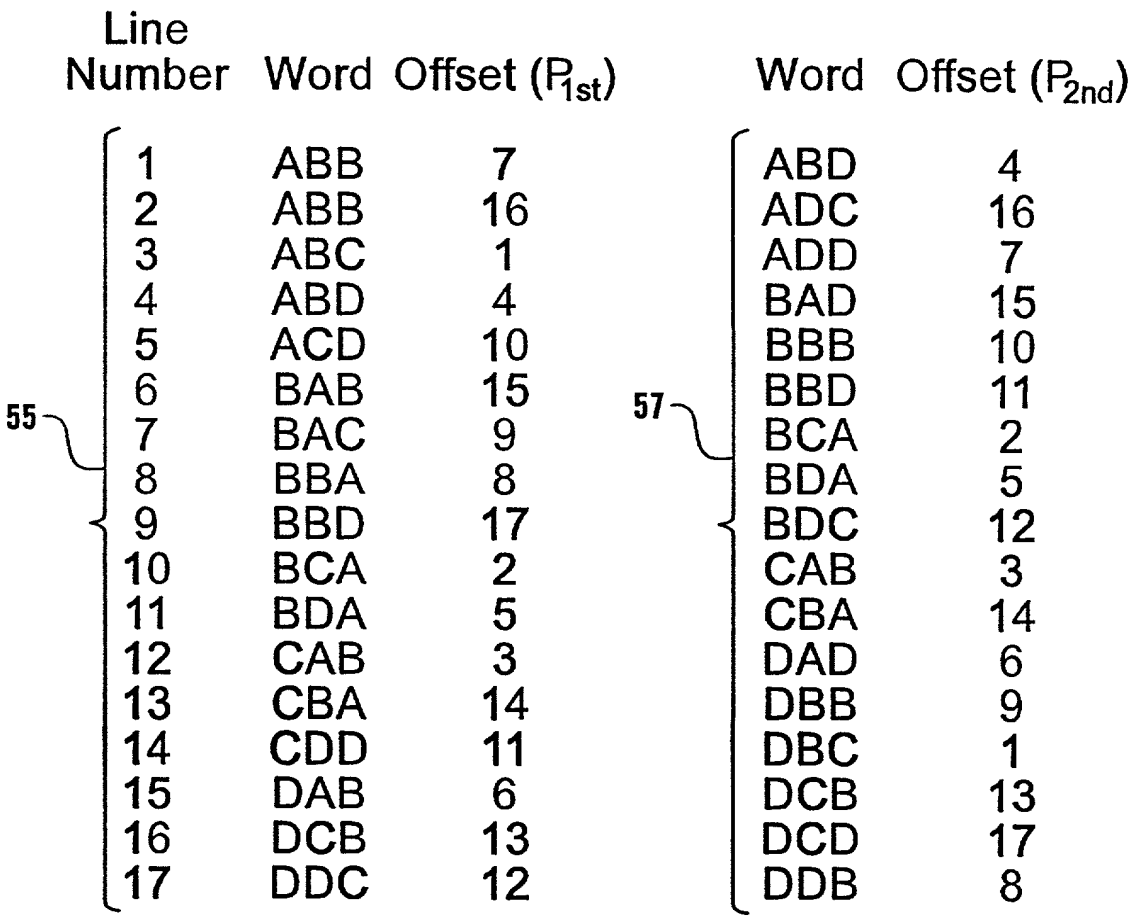
First Sorted List of Code:
Second Sorted List of Code:
Line Number
Word
Offset (P_{1st})
Word
Offset (P_{2nd})
55
57
1 ABB 7
2 ABB 16
3 ABC 1
4 ABD 4
5 ACD 10
6 BAB 15
7 BAC 9
8 BBA 8
9 BBD 17
10 BCA 2
11 BDA 5
12 CAB 3
13 CBA 14
14 CDD 11
15 DAB 6
16 DCB 13
17 DDC 12
ABD 4
ADC 16
ADD 7
BAD 15
BBB 10
BBD 11
BCA 2
BDA 5
BDC 12
CAB 3
CBA 14
DAD 6
DBB 9
DBC 1
DCB 13
DCD 17
DDB 8

FIG. 6

Current Line Number in First List	Current Line Number in Second List	Relation Between Current Words ("<", ">" or "=")
1	1	<
2	1	<
3	1	<
4	1	= (ABD)
5	2	<
6	2	>
6	3	>
6	4	<
7	4	<
8	4	>
8	5	<
9	5	>
9	6	= (BBD)
10	7	= (BCA)
11	8	= (BDA)
12	9	>
12	10	= (CAB)
13	11	= (CBA)
14	12	<
15	12	<
16	12	>
16	13	>
16	14	>
16	15	= (DCB)
17	16	>
17	17	>

FIG. 7

Word	ABD	BBD	BCA	BDA	CAB	CBA	DCB
Max Coincidence Block Length	*	3	6	*	*	*	4
Old File Offset	*	17	2	*	*	*	13
New File Offset	*	11	2	*	*	*	13

60

FIG. 8

Max Coincidence Block Length	3	6	4
Old File Offset	17	2	13
New File Offset	11	2	13

65

FIG. 9

Max Coincidence Block Length	6	3	4
Old File Offset	2	17	13
New File Offset	2	11	13

70

FIG. 10

End of Block + 1 in the New File	8	14	17

75

FIG. 11

US 6,564,215 B2

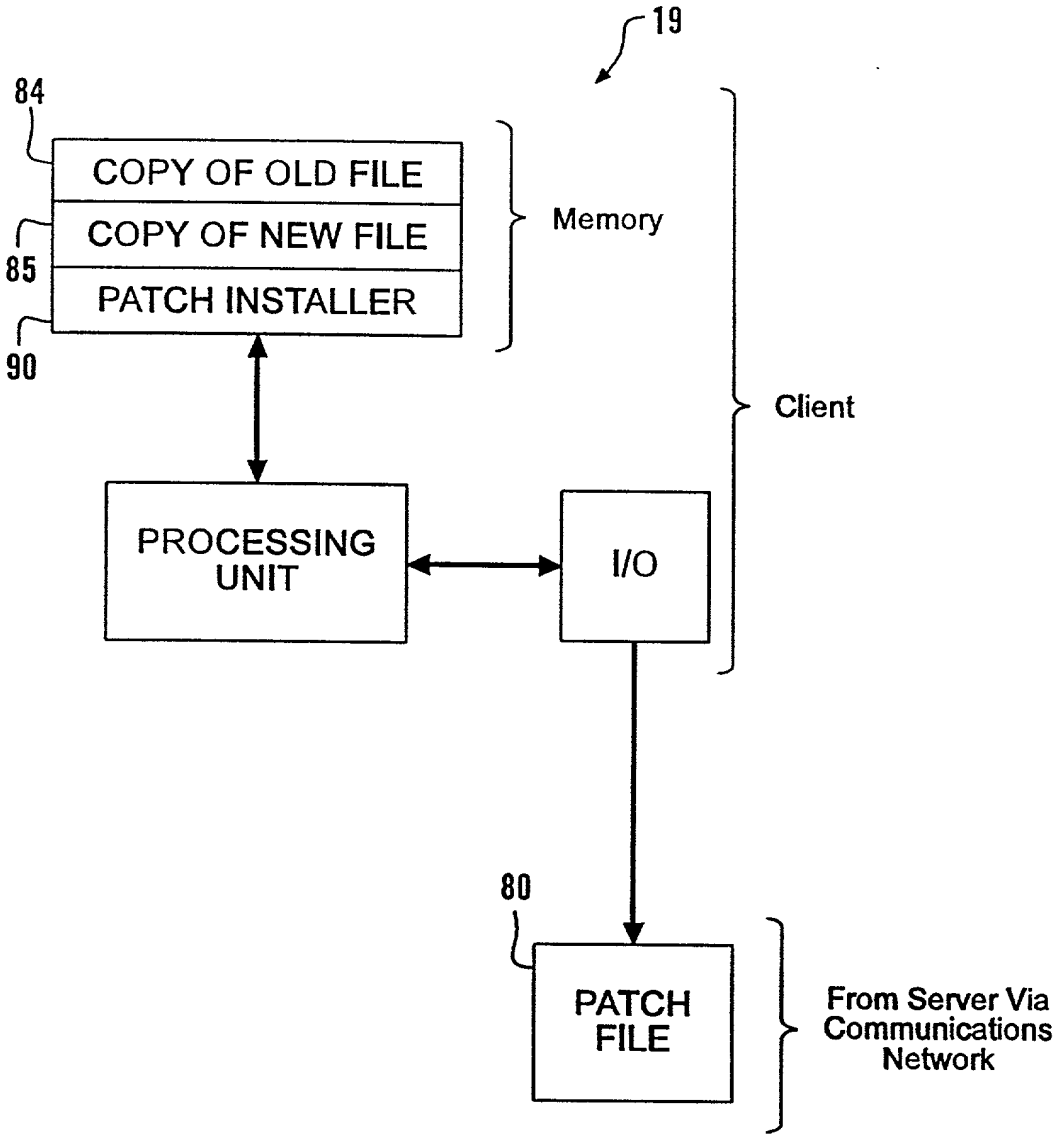
19
84
COPY OF OLD FILE
COPY OF NEW FILE
85
PATCH INSTALLER
90
Memory
Client
PROCESSING UNIT
I/O
80
PATCH FILE
From Server Via Communications Network

FIG. 12

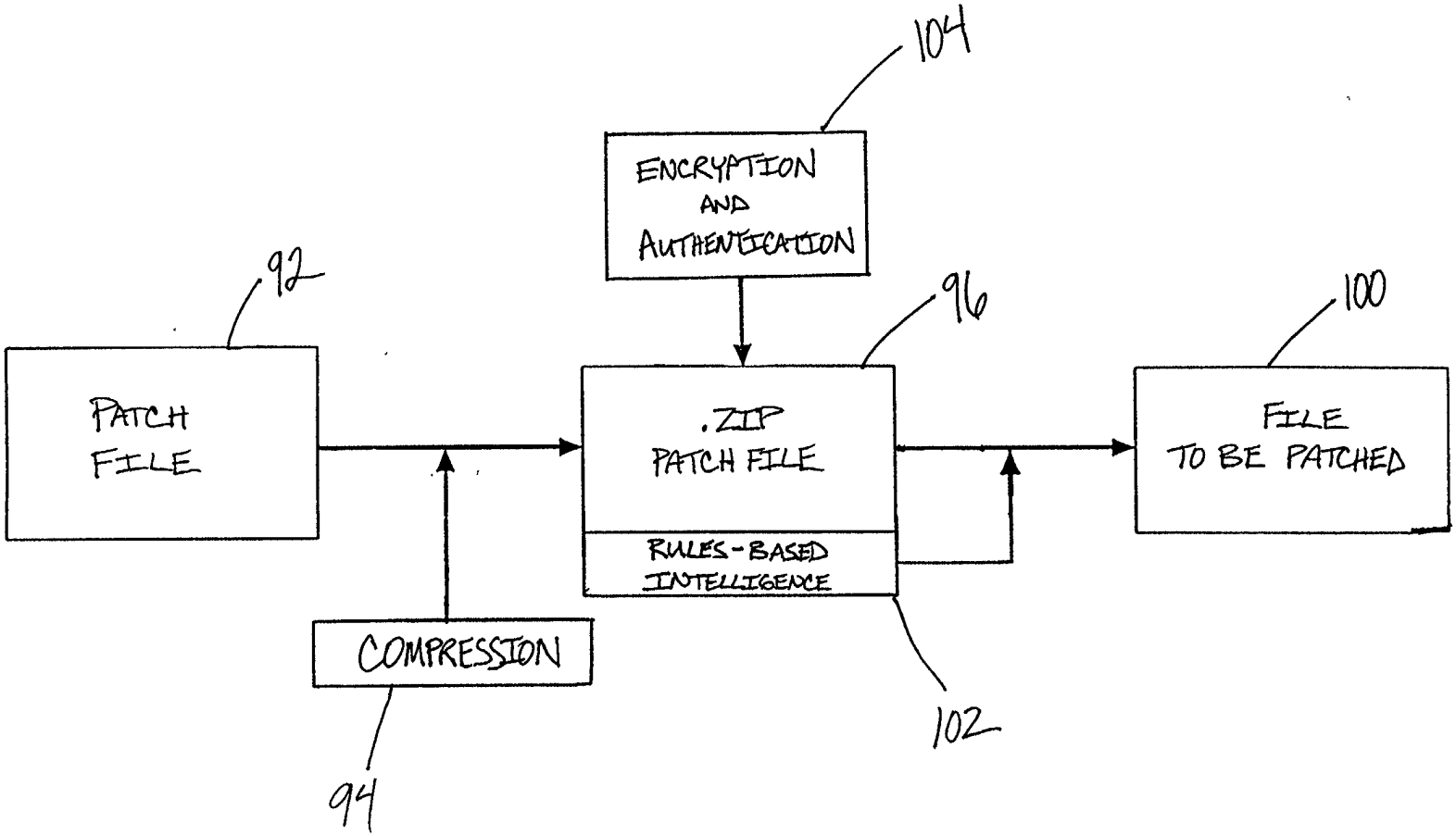
104
ENCRYPTION AND AUTHENTICATION
92
PATCH FILE
96
.ZIP PATCH FILE
100
FILE TO BE PATCHED
RULES-BASED INTELLIGENCE
COMPRESSION
94
102

FIG. 13

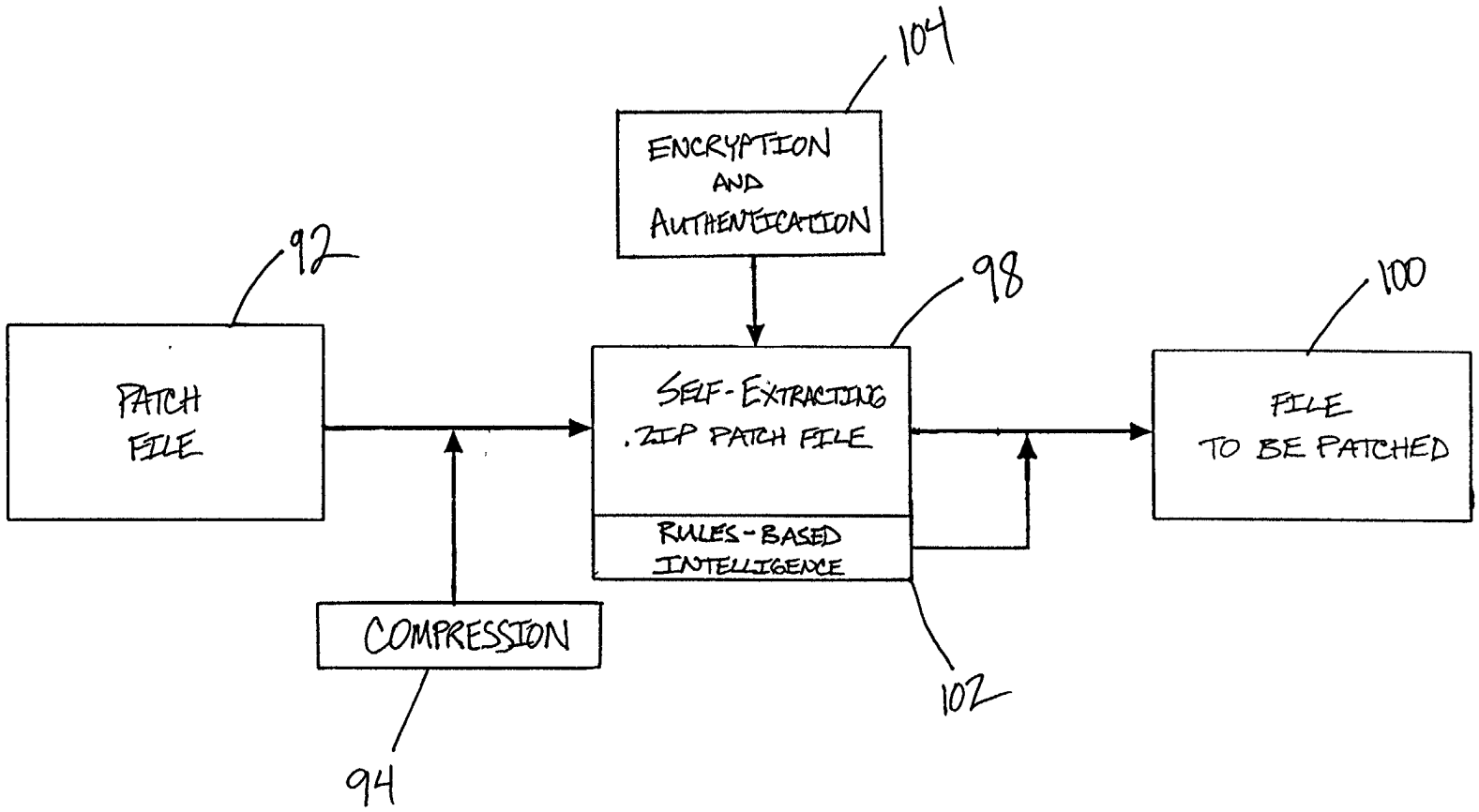
104
ENCRYPTION AND AUTHENTICATION
92
98
100
PATCH FILE
SELF-EXTRACTING .ZIP PATCH FILE
FILE TO BE PATCHED
RULES-BASED INTELLIGENCE
COMPRESSION
102
94

FIG. 14